What is claimed is:

1. A DNA molecule comprising any of the following nucleotide sequences:

(a) a nucleotide sequence encoding N-methyl transferase that is a polypeptide having an amino acid sequence of SEQ ID NO: 1 of a sequence listing and having enzyme activities of 7-methyl xanthine N3 methyl transferase, theobromine N1 methyl transferase, and paraxanthine N3 methyl transferase; and

(b) a modified nucleotide sequence obtained by carrying out nucleotide replacement, deletion, or insertion in said nucleotide sequence (a) within a range where a polypeptide encoded by said nucleotide sequence (a) can maintain said enzyme activities.

2. The DNA molecule as claimed in claim 1, wherein said nucleotide sequence (a) and said modified nucleotide sequence (b) can be hybridized under stringent conditions.

3. The DNA molecule as claimed in claim 1 or 2, wherein said nucleotide sequence (a) consists of a nucleotide sequence of SEQ ID NO: 2 of the sequence listing.

4. An RNA molecule comprising any of the following nucleotide sequences:

(a) a nucleotide sequence encoding N-methyl transferase that is a polypeptide having an amino acid sequence of SEQ

ID NO: 1 of a sequence listing and having enzyme activities of 7-methyl xanthine N3 methyl transferase, theobromine N1 methyl transferase, and paraxanthine N3 methyl transferase; and

(b) a modified nucleotide sequence obtained by carrying out nucleotide replacement, deletion, or insertion in said nucleotide sequence (a) within a range where a polypeptide encoded by said nucleotide sequence (a) can maintain said enzyme activities.

5. An RNA molecule as claimed in claim 4, wherein said nucleotide sequence (a) and said modified nucleotide sequence (b) can be hybridized under stringent conditions.

6. The RNA molecule as claimed in claim 4 or 5, wherein said sequence (a) consists of a nucleotide sequence of SEQ ID NO: 3 of the sequence listing.

7. An expression vector comprising the DNA molecule as claimed in any of claims 1 to 3 and a constitution for expressing said N-methyl transferase encoded by the DNA molecule in plant cells.

8. A transformed cell is obtained by transforming a host cell with the expression vector as claimed in claim 7.

9. The transformed cell as claimed in claim 8, wherein said host cells are microorganism cells.

10. A method for producing N-methyl transferase comprising: culturing the transformed cell as claimed in claim 8 or 9, thereby having said enzyme activities.

11. A DNA molecule comprising a nucleotide sequence complementary to all or part of the nucleotide sequence of the DNA molecule as claimed in any of claims 1 to 3, wherein the enzyme activities of the plant cells can be inhibited when introduced into plant cells having said enzyme activities and is expressed.

12. An RNA molecule comprising a nucleotide sequence complementary to all or part of the nucleotide sequence of the RNA molecule as claimed in any of claims 4 to 6, wherein the enzyme activities of the plant cells can be inhibited when introduced into plant cells having said enzyme activities and is expressed.

13. A vector comprising a DNA molecule or an RNA molecule as claimed in any of claims 1 to 6 and claims 11 and 12.

14. The vector as claimed in claim 13, wherein the vector is capable of expressing N-methyl transferase having enzyme activities of 7-methyl xanthine N3 methyl transferase,

theobromine N1 methyl transferase, and paraxanthine N3 methyl transferase in cells of at least one of microorganisms and plants or having a function of inhibiting the expression of the N-methyl transferase.

15. A microorganism wherein the microorganism is transformed with the vector as claimed in claim 13 or 14.

16. A plant cell, plant tissue, or plant body wherein the plant cell, plant tissue, or plant body is transformed with the vector as claimed in claim 13 or 14.

17. A plant cell, plant tissue, or plant body as claimed in claim 16, wherein the vector as claimed in claim 13 or 14 is introduced by infection.

18. A method for producing a plant secondary metabolite comprising: using the plant cell, plant tissue, or plant body as claimed in claim 16 or 17.

19. A method for modifying a composition of the plant secondary metabolite comprising: using the plant cell, plant tissue, or plant body as claimed in claim 16 or 17.

20. A method for producing plant secondary metabolite comprising: culturing the plant cell or plant tissue as claimed in claim 16 or 17; and growing the plant body.

21. A method for modifying a composition of the plant secondary metabolite comprising: culturing the plant cell or plant tissue, or growing plant body as claimed in claim 16 or 17.

22. The method as claimed in any of claims 18 to 21, wherein the plant secondary metabolite is at least one or more compounds selected from the group consisting of 7-methyl xanthine, paraxanthine, theobromine, and caffeine.

23. A method as claimed in any of claims 18 to 21, wherein a transformed plant body is a Camellia plant, a Coffea plant, Cola plant, Ilex plant, Neea plant, Firmiana plant, Paullinia plant, or Therbroma plant body.

24. An N-methyl transferase having enzyme activities of 7-methyl xanthine N3 methyl transferase, theobromine N1 methyl transferase, and paraxanthine N3 methyl transferase, said N-methyl transferase comprising:

(a) an amino acid sequence of SEQ ID NO: 1 of the sequence listing; or

(b) a modified amino acid sequence obtained by carrying out amino acid replacement, insertion or deletion in the amino acid sequence of SEQ ID NO: 1 of the sequence listing within a range where said enzyme activities are not damaged.

25. The N-methyl transferase as claimed in claim 25, wherein said nucleotide sequence encoding said amino acid sequence (a) and said nucleotide sequence encoding said modified amino acid sequence (b) can hybridize under stringent conditions.